



Tuesday, April 20, 2021

Attn: Mr. Keith Gammell  
Barnhardt Mfg. Co.  
247 Main Rd  
P.O. Box 3  
Colrain, MA 01340

Project ID: QUARTERLY SLUDGE SULFIDES  
SDG ID: GCH99224  
Sample ID#s: CH99224 - CH99225

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller

Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
ME Lab Registration #CT-007  
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003  
NY Lab Registration #11301  
PA Lab Registration #68-03530  
RI Lab Registration #63  
UT Lab Registration #CT00007  
VT Lab Registration #VT11301



Environmental Laboratories, Inc.  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

## Sample Id Cross Reference

April 20, 2021

SDG I.D.: GCH99224

Project ID: QUARTERLY SLUDGE SULFIDES

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Client Id	Lab Id	Matrix
SLUDGE GRAB	CH99224	SLUDGE
EFFLUENT	CH99225	WASTE WATER



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## Analysis Report

April 20, 2021

FOR: Attn: Mr. Keith Gammell  
Barnhardt Mfg. Co.  
247 Main Rd  
P.O. Box 3  
Colrain, MA 01340

### Sample Information

Matrix: SLUDGE  
Location Code: BARNHARD  
Rush Request: Standard  
P.O.#: G12043

### Custody Information

Collected by: KG  
Received by: B  
Analyzed by: see "By" below

### Date

04/14/21  
04/14/21

### Time

6:30  
16:43

## Laboratory Data

SDG ID: GCH99224  
Phoenix ID: CH99224

Project ID: QUARTERLY SLUDGE SULFIDES  
Client ID: SLUDGE GRAB

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Boron	146	3.4	mg/Kg	1	04/16/21	EK	SW6010D
Cadmium	< 0.84	0.84	mg/Kg	1	04/16/21	EK	SW6010D
Chromium	9.27	0.84	mg/Kg	1	04/16/21	EK	SW6010D
Copper	13.3	0.84	mg/Kg	1	04/16/21	EK	SW6010D
Mercury	< 0.51	0.51	mg/kg	5	04/15/21	MGH	SW7471B
Potassium	4430	1.7	mg/Kg	1	04/16/21	EK	SW6010D
Molybdenum	3.09	0.84	mg/Kg	1	04/16/21	EK	SW6010D
Nickel	3.14	0.84	mg/Kg	1	04/16/21	EK	SW6010D
Lead	< 0.84	0.84	mg/Kg	1	04/16/21	EK	SW6010D
Zinc	20.5	0.84	mg/Kg	1	04/16/21	EK	SW6010D
Percent Solid	12.4	1	%		04/14/21		SW846-%Solid
Total Solids @ 104C	12.4	0.1	%	1	04/14/21	AP/LS	SM2540B-11
Ammonia as Nitrogen	3050	355	mg/Kg	1	04/16/21	KDB	E350.1
Nitrite as N	< 0.81	0.81	mg/kg	10	04/15/21	BS/GD	SW9056A
Nitrate as N	< 4.03	4.03	mg/kg	10	04/15/21	BS/GD	SW9056A
pH - Sludge	7.61	1.00	pH Units	1	04/15/21 00:45	AP	SW9045D
Nitrogen Tot Kjeldahl	77200	1420	mg/Kg	2	04/16/21	KDB	E351.1
Total Nitrogen	77200	0.05	mg/Kg	1	04/16/21	KDB	SM4500NH3/E300.0-97
Phosphorus, Total	5090	100	mg/Kg	25	04/15/21	MI	SM4500PE-11
Mercury Digestion	Completed				04/15/21	CG/AT	SW7471B
Sludge Ext. for PCB	Completed				04/15/21	E/E	SW3550C
Total Metals Digest	Completed				04/15/21	J/AG/BF	SW3050B

### Polychlorinated Biphenyls

PCB-1016	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
PCB-1221	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
PCB-1232	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
PCB-1242	ND	390	ug/Kg	1	04/16/21	SC	SW8082A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1248	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
PCB-1254	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
PCB-1260	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
PCB-1262	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
PCB-1268	ND	390	ug/Kg	1	04/16/21	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	72		%	1	04/16/21	SC	30 - 150 %
% DCBP (Confirmation)	70		%	1	04/16/21	SC	30 - 150 %
% TCMX	50		%	1	04/16/21	SC	30 - 150 %
% TCMX (Confirmation)	52		%	1	04/16/21	SC	30 - 150 %

Massachusetts does not offer certification for Soil/Solid matrices.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

### **Comments:**

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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Phyllis Shiller, Laboratory Director

April 20, 2021

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.  
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Tel. (860) 645-1102 Fax (860) 645-0823

## Analysis Report

April 20, 2021

FOR: Attn: Mr. Keith Gammell  
Barnhardt Mfg. Co.  
247 Main Rd  
P.O. Box 3  
Colrain, MA 01340

### Sample Information

Matrix: WASTE WATER  
Location Code: BARNHARD  
Rush Request: Standard  
P.O.#: G12043

### Custody Information

Collected by: KG  
Received by: B  
Analyzed by: see "By" below

### Date

04/14/21

### Time

7:00

04/14/21

16:43

## Laboratory Data

SDG ID: GCH99224  
Phoenix ID: CH99225

Project ID: QUARTERLY SLUDGE SULFIDES  
Client ID: EFFLUENT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenolics	0.027	0.015	mg/L	1	04/16/21	ARG	E420.4
Sulfide	< 0.05	0.05	mg/L	1	04/19/21	GD	SM4500S-D-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

### Comments:

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Phyllis Shiller, Laboratory Director

April 20, 2021

Reviewed and Released by: Rashmi Makol, Project Manager



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## QA/QC Report

April 20, 2021

### QA/QC Data

SDG I.D.: GCH99224

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 571107 (mg/kg), QC Sample No: CH98970 (CH99224)													
Mercury - Soil	BRL	0.02	<0.03	<0.03	NC	93.8	92.0	1.9	107	101	5.8	75 - 125	20
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 571178 (mg/kg), QC Sample No: CH98727 (CH99224)													
<u>ICP Metals - Soil</u>													
Boron	BRL	1.3	<1.5	<1.4	NC	92.6	94.5	2.0	84.2			75 - 125	35
Cadmium	BRL	0.33	0.99	1.01	NC	100	101	1.0	87.3			75 - 125	35
Chromium	BRL	0.33	21.4	22.0	2.80	107	112	4.6	87.3			75 - 125	35
Copper	BRL	0.67	24.7	42.4	52.8	101	103	2.0	88.6			75 - 125	35
Lead	BRL	0.33	4.60	4.63	0.70	109	109	0.0	89.9			75 - 125	35
Molybdenum	BRL	0.33	<0.37	<0.36	NC	107	111	3.7	89.0			75 - 125	35
Nickel	BRL	0.33	15.3	16.0	4.50	105	105	0.0	89.3			75 - 125	35
Potassium	BRL	5.0	5690	5980	5.00	103	106	2.9	NC			75 - 125	35
Zinc	BRL	0.67	40.6	42.0	3.40	103	105	1.9	87.7			75 - 125	35

Comment:

Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

r = This parameter is outside laboratory RPD specified recovery limits.



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## QA/QC Report

April 20, 2021

### QA/QC Data

SDG I.D.: GCH99224

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 571189 (mg/Kg), QC Sample No: CH97726 (CH99224)													
Phosphorus, Total as P	BRL	0.50	17900	18200	1.70	94.2						75 - 125	30
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 571099 (PH), QC Sample No: CH98670 (CH99224)													
pH at 25C - Soil			5.07	5.04	0.60	101						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 571031 (%), QC Sample No: CH98670 (CH99224)													
Total Solids	BRL	0.1	24.1	23.6	2.10	100						75 - 125	30
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 571594 (mg/L), QC Sample No: CI00205 (CH99225)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	98.7			99.7			90 - 110	20
QA/QC Batch 571226 (mg/L), QC Sample No: CH99158 (CH99224)													
Nitrate as Nitrogen	BRL	0.05	0.18	0.20	NC	94.5			97.5			90 - 110	20
QA/QC Batch 571226 (mg/L), QC Sample No: CH99158 (CH99224)													
Nitrite as Nitrogen	BRL	0.01	<0.01	<0.01	NC	97.5			104			90 - 110	20
QA/QC Batch 571133 (mg/Kg), QC Sample No: CH96905 17.5X (CH99224)													
Ammonia as Nitrogen	BRL	3.51	8850	8460	4.50	93.9			99.0			75 - 125	30
Nitrogen Tot Kjeldahl	BRL	3.51	36900	35460	4.00	115			98.0			75 - 125	30
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
QA/QC Batch 571306 (mg/L), QC Sample No: CH98335 (CH99225)													
Phenolics	BRL	0.015	<0.015	<0.015	NC	106			100			90 - 110	20



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## QA/QC Report

April 20, 2021

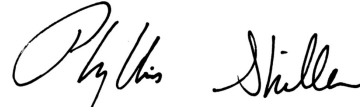
### QA/QC Data

SDG I.D.: GCH99224

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 571287 (ug/Kg), QC Sample No: CH98720 (CH99224)										
<u>Polychlorinated Biphenyls - Sludge</u>										
PCB-1016	ND	13	49	47	4.2				40 - 140	30
PCB-1221	ND	13							40 - 140	30
PCB-1232	ND	13							40 - 140	30
PCB-1242	ND	13							40 - 140	30
PCB-1248	ND	13							40 - 140	30
PCB-1254	ND	13							40 - 140	30
PCB-1260	ND	13	70	70	0.0				40 - 140	30
PCB-1262	ND	13							40 - 140	30
PCB-1268	ND	13							40 - 140	30
% DCBP (Surrogate Rec)	80	%	78	80	2.5				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	79	%	76	80	5.1				30 - 150	30
% TCMX (Surrogate Rec)	47	%	48	46	4.3				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	51	%	50	48	4.1				30 - 150	30

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference  
LCS - Laboratory Control Sample  
LCSD - Laboratory Control Sample Duplicate  
MS - Matrix Spike  
MS Dup - Matrix Spike Duplicate  
NC - No Criteria  
Intf - Interference

  
Phyllis Shiller, Laboratory Director  
April 20, 2021

Tuesday, April 20, 2021

Criteria: None  
State: MA

**Sample Criteria Exceedances Report**  
**GCH99224 - BARNHARD**

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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\*\*\* No Data to Display \*\*\*

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



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## Analysis Comments

April 20, 2021

SDG I.D.: GCH99224

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The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

